



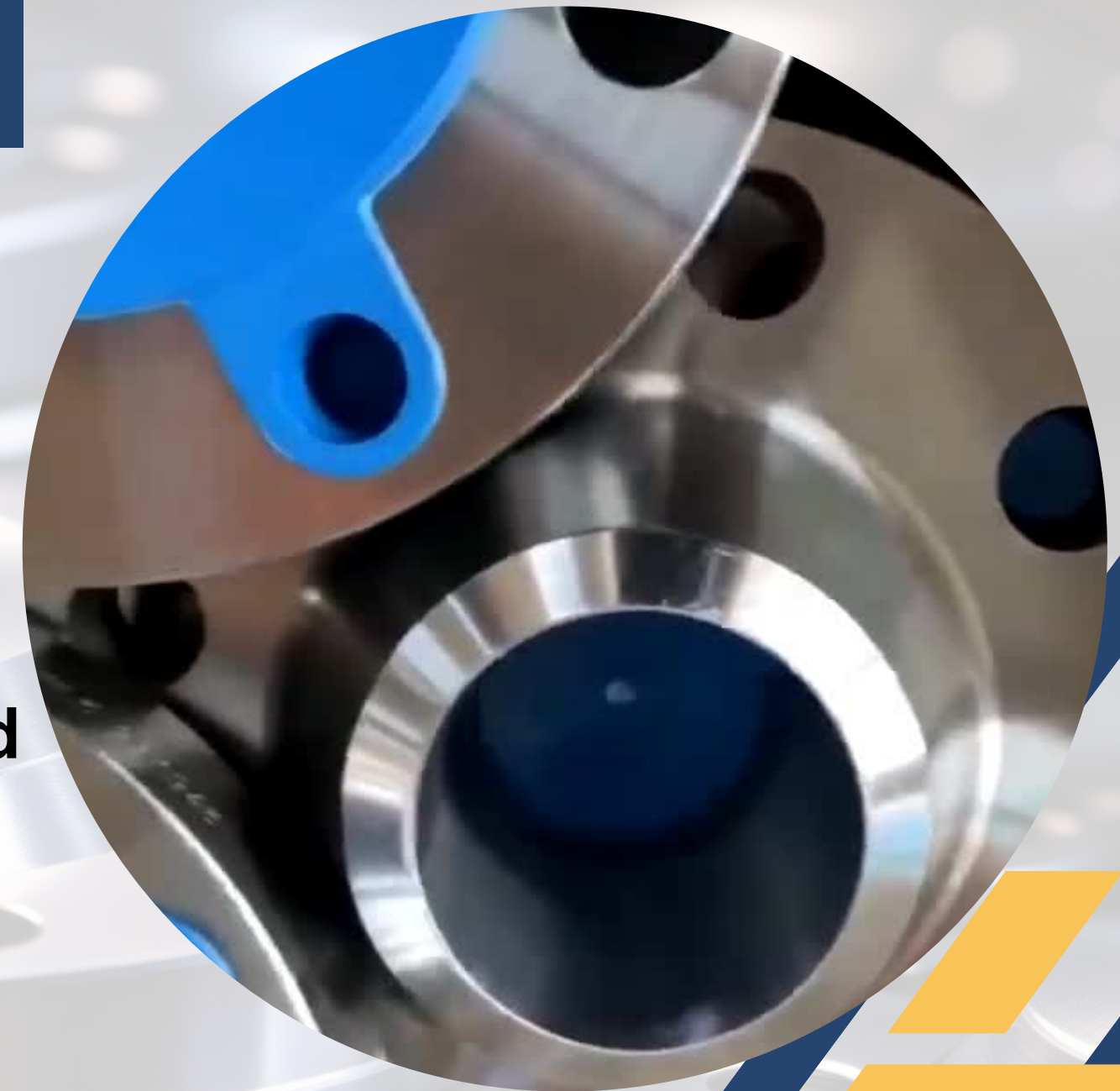
316 STAINLESS STEEL FLANGES

Applications, Properties,
Manufacturing, and Market
Roadmap

WHAT IS A 316 STAINLESS STEEL FLANGE?



- A flange is a pipe connection component used to join pipes, valves, pumps, and other equipment.
- 316 stainless steel flanges are made from austenitic stainless steel containing chromium, nickel, and molybdenum.
- They are known for excellent corrosion resistance and durability.
- Commonly used in harsh industrial environments.



CHEMICAL COMPOSITION OF SS 316



- Chromium (Cr): 16–18%
- Nickel (Ni): 10–14%
- Molybdenum (Mo): 2–3%
- Carbon (C): Maximum 0.08%
- Iron (Fe): Balance

Key Point: The addition of molybdenum provides superior resistance against chlorides and chemicals.





MAIN FEATURES AND BENEFITS



- Excellent corrosion resistance
- High strength at elevated temperatures
- Good weldability and machinability
- Resistance to pitting and crevice corrosion
- Long service life with low maintenance



COMMON TYPES OF FLANGES



- Weld Neck Flange
- Slip-On Flange
- Blind Flange
- Socket Weld Flange
- Threaded Flange
- Lap Joint Flange



WHERE 316 FLANGES ARE USED



- Oil and Gas Industry
- Chemical Processing Plants
- Marine and Shipbuilding
- Food and Beverage Industry
- Food and Beverage Industry
- Water Treatment Plants





HOW 316 FLANGES ARE MANUFACTURED



1. Selection of raw stainless steel material
2. Cutting and forging of the flange shape
3. Machining and drilling
4. Heat treatment and finishing
5. Inspection and quality testing
6. Packaging and dispatch



INTERNATIONAL STANDARDS

- ASTM A182 F316 / F316L
- ASME B16.5
- ASME B16.47
- EN 1092-1
- MSS SP-44

Testing Methods:

- Pressure Test
- PMI Test
- Hydro Test
- Ultrasonic Test
- Dimensional Inspection



FINAL SUMMARY



- 316 stainless steel flanges are highly durable and corrosion-resistant.
- They are ideal for demanding industrial applications.
- Their market demand is expected to increase globally.
- Companies focusing on quality, standards, and customization will have the best growth opportunities.

316 Stainless Steel Flanges are the foundation of reliable and long-lasting piping systems.





THANK YOU



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